U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-286/80-10

Docket No. 50-286

License No DPR-64 Priority -- Category C

Licensee: Power Authority of the State of New York

10 Columbus Circle

New York, New York 10019

Facility Name: Indian Point Nuclear Generating Station, Unit No. 3

Inspection at: Buchanan, New York

Inspection conducted: July 8 - 11, 1980

Inspectors: J. C. Higgins, Resident Inspector, Shoreham Nuclear Power Station — 7/25/80 date signed

_____ date signed

_____ date signed

Approved by: H. B. Kister, Chief, Reactor Projects Section No. 4, RO&NS Branch — 7/28/80 date signed

Inspection Summary:
Inspection on July 8-11, 1980 (Report No. 50-286/80-10)
Areas Inspected: Routine onsite regular inspection by a resident inspector (30 inspection hours) of: loss of coolant accident (LOCA) procedures, and training of licensed operators in the use of the LOCA procedures.
Results: No items of non-compliance were identified.

Region I Form 12
(Rev. April 77)

DETAILS

1. Persons Contacted

C. Caputo, Technical Services Engineer
*W. Hamlin, Assistant to the Resident Manager
*R. Hansler, Assistant to the Operations Superintendent
*W. Josiger, Superintendent of Power
C. Mackay, Shift Superintendent
*S. Munoz, Technical Services Superintendent
*R. Schimpf, Quality Assurance Engineer
*S. Zulla, Resident Manager

*Denotes those present at the exit interview.

The inspector also interviewed other members of the operations, instrument and control, and technical staffs.

2. Procedure Review

a. Documents Reviewed

-- Procedure PEP-ES-1, "Emergency Core Cooling System Actuation", Rev. 5.

-- Procedure PEP-ES-1A, "Loss of Coolant to Containment", Rev. 8.

-- Procedure PEP-ES-1B, "Steam Generator Tube Rupture", Rev. 2.

-- Procedure PEP-ES-1E, "Recovery from an Inadvertant Safety Injection", Rev. 2.

-- Procedure PEP-ES-6, "Pressurizer Vapor Space LOCA", Rev. 0.

-- Procedure PEP-ES-7, "Removal of a Non-Condensable Bubble in the Reactor Coolant System", Rev. 0.

-- NRC TI 2515/32, Inspection Requirements to review Licensee Small Break Loss of Coolant Accident (SBLOCA) Procedures.

-- Letters NRC to Westinghouse Owner's Group dated 11/5/79, 12/27/79 and 12/6/79.

-- Letters NRC to PASNY dated 5/9/80, 2/21/80, 12/27/79 and 10/30/79.

-- Letters PASNY to NRC dated 6/17/80, 2/3/80, 1/8/80, 12/10/79, 12/4/79 and 10/22/79.

-- Memoranda from Westinghouse Owner's Group to Members dated 12/10/79 (TMI-OG-120) and 12/27/79 (TMI-OG-132).

-- Background Information for Emergency Operating Instructions, E-0, E-1, E-2 and E-3, Plants with Nominal 1400 PSI Range SI Pumps.

-- NUREG-0623, Generic Assessment of Delayed Reactor Coolant Pump Trip during Small Break Loss-of-Coolant Accidents in Pressurized Water Reactors.

-- Westinghouse Instructions to Restore Core Cooling During a Small LOCA.

b. Scope of Review

The inspector reviewed the above documents to determine licensee and Westinghouse Owner's Group commitments to the NRC and to determine the applicable requirements, recommendations and guidelines regarding emergency procedures for loss of coolant accidents (LOCA's). The inspector then reviewed the licensee procedures against the applicable requirements, recommendations and guidelines, particularly in the area of information obtained from the Three Mile Island (TMI) accident. During the procedure review, the inspector considered the clarity and flow of the procedures as well as specific procedural steps, cautions and notes.

Specifically, in the above listed letters from Con Ed to the NRC, the licensee committed to the various Short Term Lessons Learned Items of NUREG-0578. Among these items were requirements to update LOCA procedures and inadequate core cooling procedures to guidelines supplied by the Westinghouse Owner's Group and approved by the NRC. Additionally, in the NRC Safety Evaluation Reports (SER's) on the licensee's responses to the Short Term Lessons Learned (STLL) and on the TMI Bulletins (79-06A and 79-06A, Rev. 1) several items were noted as acceptable pending NRC inspector review of implementation. The inspector verified all the items from the SER on the TMI Bulletins. From Enclosure 2 of the SER for the licensee's STLL, the inspector verified subparagraph 1 under 2.1.3 (a) and all under 2.1.3 (b). With the exception of the below items, the inspector had no further questions at this time.

c. Emergency Procedures Format

The inspector noted that the immediate action section of the licensee's procedures in general and procedure PEP-ES-1 in particular was quite long and probably had sufficient steps and notes to restrict its clarity and flow with respect to timely initiation of operator actions. Procedure PEP-ES-1 has 8 pages of immediate actions and during the operator interviews described below in paragraph 3.b., none of the licensed operators were able to describe 100% of the immediate actions without reference to the procedure. The inspector did note that all persons interviewed appeared to have a good grasp of the transients involved and satisfactory knowledge of the actions required to respond to the various LOCA's.

Based on the above finding, the inspector stated that a review of procedure format to determine ways of shortening, separating or high-lighting required actions appeared appropriate. This review or revision should not be merely a reduction in length, since the immediate actions do not currently contain unimportant or extraneous information.

The inspector noted that the licensee had a set of draft emergency procedures from Essex Corporation which appeared to address the above concerns. This item is designated as inspector follow item No. (286/80-10-01). This general area will also receive further review by NRC management.

d. Procedure PEP-ES-1

Procedure PEP-ES-1 Emergency Core Cooling System (ECCS) Actuation, describes the automatic actions which occur when the ECCS or Engineered Safeguards actuates and specifies operator actions to verify proper occurrences, remedy failures and to ascertain the cause of the actuation. Based on diagnostics in this procedure the operator is directed to one of three LOCA procedures or to a spurious actuation procedure.

The inspector had the following comments on the procedure:

(1) Step 3.16.E was not completely clear regarding if and when to cancel NaOH addition to the containment spray;

(2) The procedure did not include as an immediate action, a check of heat removal via the steam generators per Westinghouse guideline step C.3(c);

(3) Step 4.6.D for securing from an inadvertent safety injection does not contain the Westinghouse subcooling criterion; and,

(4) Step 4.7 is not completely clear on when to sound the evacuation alarm.

These items are unresolved and are designated item no. (286/80-10-02).

e. Procedure PEP-ES-1A

PEP-ES-1A, Loss of Coolant to Containment describes the actions to be taken if, after an ECCS actuation and completion of procedure PEP-ES-1, the operator determines that there has been a failure of the reactor coolant system (that is a LOCA) inside containment.

Based on a review of this procedure, the inspector noted the following items:

(1) Step 2.1.G gives no guidance on actions to be taken if the described Inadequate Core Cooling Situation exists. The inspector noted that some guidance is available in procedure PEP-ES-7;

(2) Steps 2.1.I and 2.1.L do not use the Westinghouse subcooling criterion for stopping and reinitiating safety injection;

(3) The caution after step 2.1.Q is apparently out of place, and;

(4) The procedure contains no precaution on deadhead protection for the safety injection pumps when in the high head recirculation mode.

These items are unresolved and designated as item no. (286/80-10-03).

f. Procedure PEP-ES-6

PEP-ES-6, Pressurizer Vapor Space LOCA, describes the indications and actions to be taken following a LOCA in the steam or vapor space of the pressurizer. This procedure is currently not referenced by the main LOCA or ECCS actuation procedure, PEP-ES-1. This item is designated as inspector follow item (286/80-10-04).

g. Procedure PEP-ES-7

PEP-ES-7, Removal of a Non-Condensable Bubble in the Reactor Coolant System, describes the emergency condition resulting from pressure dropping below saturation and causing a non-condensable bubble to be formed in either the reactor itself or the steam generator tube portion of the reactor coolant system. The inspector noted that this procedure was not referenced by either PEP-ES-1 or PEP-ES-1A and that it was not entirely clear when it was intended to be used. This item is unresolved and is designated item no. (286/80-10-05).

h. License Action on Procedural Items

The inspector noted that several of the procedures commented on above were in the process of being rewritten during the inspection. The inspector reviewed the working draft of the newly revised procedures and noted that several of the items detailed above had been identified by the licensee and were incorporated in the drafts. The licensee's representative stated that each of the items in paragraph 2.d through 2.f above would be addressed in the next procedure revision.

3. LOCA Procedure Training

a. General

The inspector discussed the training conducted for selected Short Term Lessons Learned (STLL) Items and for the LOCA procedures with various licensee personnel. The training included classroom discussions of the procedures and walk-throughs in the onsite simulator. The inspector also noted that many of the training requirements from the STLL letters were duplicated by training required more recently by a Confirmatory Order sent to the licensee and verified by the Indian Point Resident Inspector.

b. Licensed Operator Interviews

(1) Scope

The inspector interviewed five licensed reactor operators including a staff engineer, shift supervisor, senior reactor operator and reactor operator to determine the adequacy of the procedures from a functional standpoint and the effectiveness of the training program. These interviews were conducted in the Central Control Room both with and without the procedures available to the operators. The operators were asked to point to specific switches

and indicators to be used during the use of the LOCA procedures. An example of the topics discussed is: Procedure PEP-ES-1 immediate actions and indications, diagnostics of ECCS actuation, LOCA vs. other depressurization events, procedural usefulness, training effectiveness, various subsequent procedural actions, heat sinks, PORV indications, steam generators, voiding, subcooled vs. saturated conditions, small break LOCA safety injection termination, inadequate core cooling, the TMI accident, and RCP trip criteria.

(2) Findings

Overall operator knowledge of indications observed and required actions on the various LOCA scenarios was good. The procedures appeared workable and the training program effective in providing familiarity with the procedures and LOCA sequences. Based on the results of the interviews, the inspector concluded that operators would benefit from additional review in the following areas:

(a) The basis for the reactor coolant pump trip on low pressure during a small break LOCA;

(b) The basis for accumulator isolation on 250 psig (decreasing) after a LOCA;

(c) Actions and procedural coverage for an Inadequate Core Cooling situation;

(d) Incore thermocouple ranges of readout and availability of further values if these are exceeded; and,

(e) Deadhead protection for safety injection pumps when in high-head recirculation mode.

The licensee's representative stated that these areas would be reviewed with all licensed operators by July 18, 1980 or their next watch, whichever was later. This item is unresolved and is designated as item no. (286/80-10-06).

4. Instrumentation

a. Availability

The inspector reviewed the instrumentation needed to carry out operator actions in the LOCA procedures with regard to susceptibility to power failure, either due to loss of offsite power or loss of a single instrument bus, and with regard to redundancy. The inspector also noted that qualification of instrumentation with regard to post-LOCA environmental effects was being reviewed by an NRC task group. The inspector identified no problems with the instrumentation reviewed except for steam generator (S/G)

wide range levels. These levels are used for safety injection termination, have no back-up specified in the procedures, and are all powered from a single instrument bus. This item is unresolved and is designated as item no. (286/80-10-07).

b. Setpoints

The inspector reviewed the licensee's calculations and performed independent calculations to determine the setpoint at which the reactor coolant pumps are tripped during a small break LOCA. The inspector stated that 1350 psig appeared to be a more appropriate point to trip the pumps that the 1225 psig specified in the procedures. The 1225 number does not include a psia to psig correction or a post-LOCA instrument error correction. The licensee's representative stated that the setpoint would be re-evaluated.

The inspector also requested to see calculations demonstrating that the S/G tubes would be covered at the 55% wide range level specified in the procedure, including allowance for post-LOCA instrument errors. The licensee was not able to demonstrate this during the inspection. These two items are unresolved and are designated as item no. (286/80-10-08).

5. Engineering Data

In the NRC letter of 11/5/79 to the Westingnouse Owner's Group, which approves the LOCA guidelines, several items are noted to be plant specific and each licensee is directed to provide certain engineering information and justifications. The engineering data specified for items (3) and (5) was not available for review during the time of the inspection and is designated as inspector follow item no. (286/80-10-09).

6. Unresolved Items

Items about which more information is required to determine acceptability are considered unresolved. Paragraphs 2.d, 2.e, 2.g, 3.b, 4.a, and 4.b of this report contain unresolved items.

7. Exit Interview

At the inspection's end the inspector held a meeting (see Detail 1 for attendees) to discuss the inspection scope and findings. The unresolved items were identified.

JAN 13 1981

Docket No. 50-286
EA-80-48

Power Authority of the State of New York
ATTN: Mr. J. P. Bayne
Senior Vice President
Nuclear Generation
10 Columbus Circle
New York, NY 10019

Gentlemen:

This will acknowledge your letter dated December 30, 1980 (IPN-80-120) and the enclosed check in the amount of Eleven Thousand Dollars in full payment of the civil penalties imposed by NRC Order dated December 8, 1980.

Sincerely,

Original signed by
Dudley Thompson
Dudley Thompson, Director
Enforcement and Investigations
Office of Inspection and Enforcement

cc: Mr. George T. Berry
President and Chief Operating Officer

80-9

OFFICE	EI:IE	EI:D					
SURNAME	T.Brockett/bts	D.Thompson					
DATE	1/13/80	1/13/80					

NRC FORM 318 (10/80) NRCM 0240

OFFICIAL RECORD COPY

☆ USGPO: 1980—329-824

POWER AUTHORITY OF THE STATE OF NEW YORK

10 COLUMBUS CIRCLE NEW YORK, N. Y. 10019

(212) 397-6200

EA-80-48

Rec'd 1/12/81

December 30, 1980
IPN-80-120

Director, Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
Order Imposing Civil Monetary Penalties

Dear Sir:

In response to the subject item dated December 8, 1980, enclosed herewith is a check in the amount of Eleven Thousand Dollars ($11,000) payable to the Treasurer of the United States.

Very truly yours,

J. P. Bayne
Senior Vice President
Nuclear Generation

Stock Form 1114
October 1967
Title 7, GAO Manual
1114-106

IE files

BILL FOR COLLECTION

Bill No. _____

U. S. Nuclear Regulatory Commission

Date January 13, 1981

(Department or Establishment and Bureau or Office)

Washington, D. C. 20555

(Address)

PAYER:

Power Authority of the State of New York
10 Columbus Circle
New York, NY 10019

This bill should be returned by the payer with his remittance.
SEE INSTRUCTIONS BELOW.

Date	DESCRIPTION	Quantity	Unit Price Cost	Unit Price Per	Amount
1/13/81	Full payment of civil penalty in response to Order Imposing Civil Monetary Penalties Docket No. 50-286				$11,000.00
				AMOUNT DUE THIS BILL,	$ 11,000.00

This is not a receipt

INSTRUCTIONS

Tender of payment of the above bill may be made in cash, United States postal money order, express money order, bank draft, or check, to the office indicated. Such tender, when in any other form than cash, should be drawn to the order of the Department or Establishment and Bureau or Office indicated above.

Receipts will be issued in all cases where "cash" is received, and only upon request when remittance is in any other form. If tender of payment of this bill is other than cash or United States postal money order, the receipt shall not become an acquittance until such tender has been cleared and the amount received by the Department or Establishment and Bureau or Office indicated above.

Failure to receive a receipt for a cash payment should be promptly reported by the payer to the chief administrative officer of the department or agency mentioned above.

U. S. GOVERNMENT PRINTING OFFICE : 1974 O - 552-290

80-09

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POWER AUTHORITY 34-120086
OF THE STATE OF NEW YORK
10 COLUMBUS CIRCLE
NEW YORK, NY 10019

OGP 8508

Dec. 17 19 80

1-23
210

PAY The sum of 11,000 and 00 cts DOLLARS $ 11,000.00

Treasurer of The United States

TO THE ORDER OF

Morgan Guaranty Trust Company of New York

POWER AUTHORITY OF THE STATE OF NEW YORK
OPERATING FUND GENERAL PURPOSE

CONTROLLER

AUTHORIZED OFFICER

⑈00008508⑈ ⑆021000238⑆ 050 68 787⑈

DELUXE CHECK PRINTERS

POWER AUTHORITY OF THE STATE OF NEW YORK

10 COLUMBUS CIRCLE NEW YORK, N. Y. 10019

(212) 397-6200

EA-80-48

Rec'd 1/12/81

December 30, 1980
IPN-80-120

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J. P. Bayne
Senior Vice President
Nuclear Generation

DEC 10 1980

Docket No. 50-286
License No. DPR-64
EA-80-48

MEMORANDUM FOR: Docketing and Service Section
Office of the Secretary of the Commission

FROM: Dudley Thompson, Director
Enforcement and Investigations, IE

SUBJECT: POWER AUTHORITY OF THE STATE OF NEW YORK

One signed original of an Order Imposing Civil Monetary Penalties which was issued to the Power Authority of the State of New York on December 8, 1980, is enclosed for your transmittal to the Office of the Federal Register for publication. Additional conformed copies (12) of the Order are enclosed for your use.

Dudley Thompson, Director
Enforcement and Investigations
Office of Inspection and Enforcement

Enclosures: as stated

cc: V. Stello, IE
R. DeYoung, IE
J. Murray, ELD
J. Keppler, RIII
J. Sniezek, RRRI
T. Brockett, EI

80-09

OFFICE	EI:IE	EI:D				
SURNAME	T.Brockett/bts	D.Thompson				
DATE	12/10/80	12/10/80				